

Algebra Final-Review

Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. Simplify $8 + 3[3 - (1)^6]$.
A -1
B 2
C 22
D 14
2. Simplify $3^4 + 12 \div 3 - (1 - 9)$.
A 21
B 75
C 39
D 93
3. Evaluate $2 + x - 2 \cdot 8$ for $x = 9$.
A -68
B 58
C -5
D 72
4. Simplify the expression $\frac{2 + 4^2}{2} + |1 - 6|$.
A 14
B 23
C 4
D 22
5. Simplify the expression $3\frac{4}{5} + 3\frac{7}{9} + 4\frac{1}{5}$.
A $10\frac{7}{9}$
B $11\frac{7}{9}$
C $10\frac{12}{19}$
D $11\frac{12}{19}$
6. Solve $\frac{2}{10}b = 99$.
A $b = 495$
B $b = 99\frac{2}{10}$
C $b = 20$
D $b = 10$
7. Solve $44 = 14 - 2a$.
A $a = -29$
B $a = 29$
C $a = 15$
D $a = -15$
8. Solve $\frac{f}{45} - \frac{2}{9} = \frac{2}{9}$.
A $f = 101$
B $f = -20$
C $f = 20$
D $f = -101$
9. Solve $43a + 10 - 26a = 27$.
A $a = 1$
B $a = -1$
C $a = -17$
D $a = 17$
10. Solve $50q - 43 = 52q - 81$.
A $q = -19$
C $q = -38$

B $q = 38$

D $q = 19$

11. Solve $n - 8 + n = 1 - 4n$.

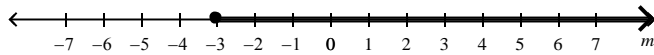
A $n = 1\frac{1}{2}$

C $n = 3\frac{1}{2}$

B $n = -4\frac{1}{2}$

D $n = -1\frac{1}{6}$

12. Write the inequality shown by the graph.



A $m \leq -3$

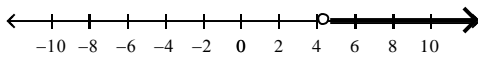
C $m \geq -3$

B $m > -3$

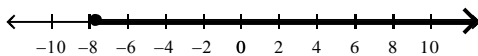
D $m < -3$

13. Solve the inequality $n + 6 < -1.5$ and graph the solutions.

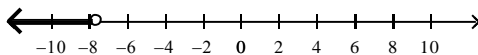
A $n < 4.5$



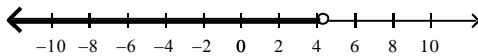
B $n < -7.5$



C $n < -7.5$

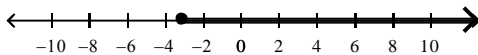


D $n < 4.5$

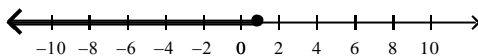


14. Solve the inequality $z + 8 + 3z \leq -4$ and graph the solutions.

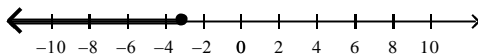
A $z \geq -3$



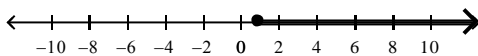
B $z \leq 1$



C $z \leq -3$

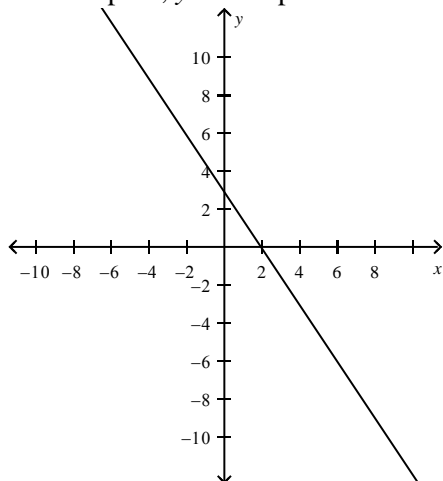


D $z \geq 1$

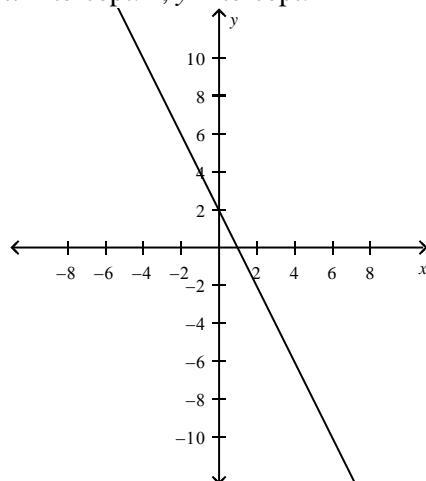


15. Use intercepts to graph the line described by the equation $3x + 2y = 6$.

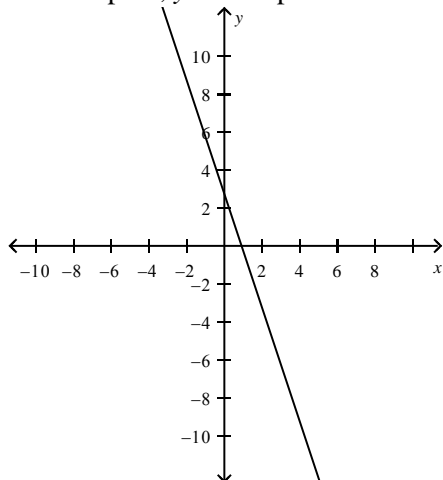
A x -intercept: 2, y -intercept: 3



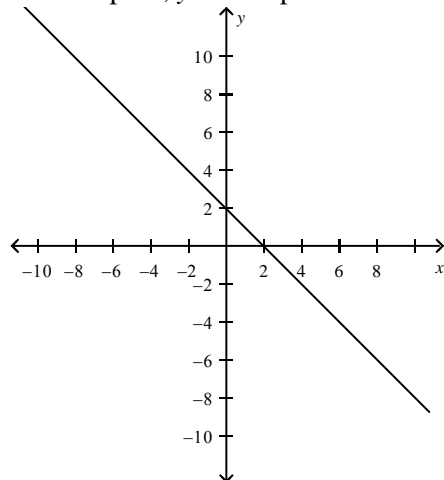
C x -intercept: 1, y -intercept: 2



B x -intercept: 1, y -intercept: 3



D x -intercept: 2, y -intercept: 2



16. Find the slope of the line that contains (1, 6) and (10, -9).

A $-\frac{11}{3}$

C $-\frac{3}{11}$

B $-\frac{3}{5}$

D $-\frac{5}{3}$

17. Find the slope of the line described by $x - 3y = -6$.

A $\frac{1}{3}$

C -3

B $-\frac{1}{3}$

D 3

18. Write an equation in slope-intercept form of the line with slope $-$ that contains the point (2, 3).

A $y = -x + 3$

C $y = -x + 2$

B $y = -x + 5$

D $y = -x + 2$

19. Solve $\begin{cases} 3x + y = -3 \\ y = x + 5 \end{cases}$ by using substitution. Express your answer as an ordered pair.

A $(3, -2)$ C $(-\frac{4}{3}, 1)$
B $(-\frac{8}{3}, -3)$ D $(-2, 3)$

20. Simplify $\frac{9x^0y^{-8}}{z^{-8}}$.

A $\frac{9y^8}{z^8}$ C $9xy^8z^8$
B $\frac{9z^8}{y^8}$ D $\frac{9}{y^8z^8}$

21. Simplify $(-6) \cdot (-6)^2$.

A -18 C -216
B Cannot simplify D $-\frac{1}{216}$

22. Simplify $(x^5)^{-8}x^4$.

A $\frac{1}{x^{160}}$ C x^{-36}
B $\frac{1}{x^{36}}$ D $\frac{1}{x^{12}}$

23. Simplify $\frac{y^6z^{12}}{(yz)^3}$.

A y^6z^{12} C Cannot simplify
B y^3z^9 D y^6z^4

24. Add.

$$(5c^5 - c) + (c^5 + 7c - 2)$$

A $5c^5 + 7c - 2$ C $6c^{10} + 6c^2 - 2$
B $6c^5 + 6c$ D $6c^5 + 6c - 2$

25. Subtract.

$$(8b^4 - b^3) - (b^4 + 4b^3 - 4)$$

A $7b^4 - 5b^3 + 4$
B $7b^4 - 5b^3$
C $8b^4 - 5b^3 - 4$
D $8b^4 + 4b^3 - 4$

26. Multiply.

$$(p - 8)^2$$

A $p^2 - 16p - 64$
 B $p^2 + 16p + 64$

C $p^2 - 16p - 8$
 D $p^2 - 16p + 64$

27. Multiply.
 $(r + 7)(r - 7)$

A $r^2 - 49$
 B $r^2 + 14$

C $r^2 - 7r + 49$
 D $2r - 14$

28. Factor the polynomial $12y^3 + 33y^2 - 6y$.

A $3y(4y^2 + 11y - 2)$
 B Cannot be factored
 C $3(4y^3 + 11y^2 - 2y)$
 D $y(12y^2 + 33y - 6)$

29. Factor $3x^2 + 2x - 8$.

A $(x - 2)(3x + 4)$
 B $(x + 2)(3x + 4)$

C $(x - 2)(3x - 4)$
 D $(x + 2)(3x - 4)$

30. Factor $2x^2 + 7x + 6$.

A $(x + 3)(2x + 2)$
 B $(x + 2)(2x - 3)$

C $(x + 2)(x + 3)$
 D $(x + 2)(2x + 3)$

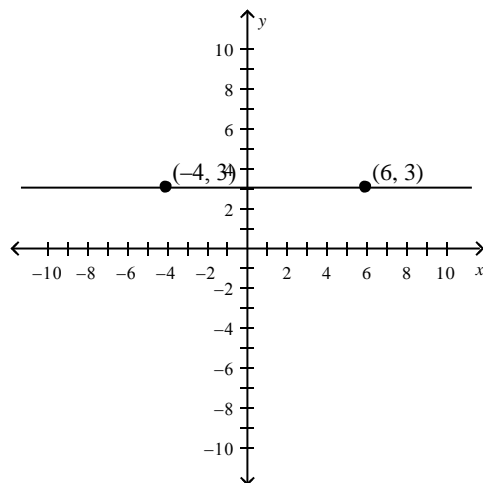
31. Solve the quadratic equation $x^2 + 2x - 8 = 0$ by factoring.

A -4 and 2
 B 4 and 2

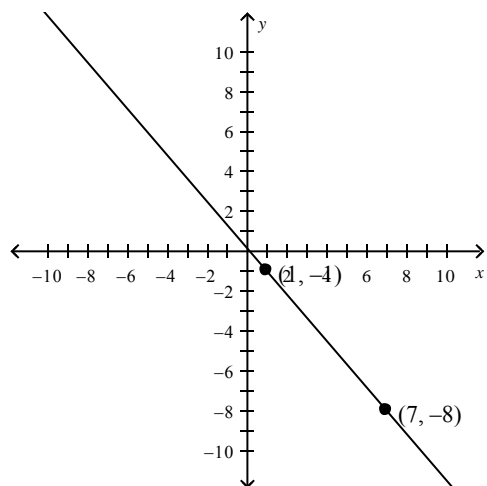
C -4 and -2
 D 4 and -2

Short Answer

32. What is the equation of the line shown?.



33. What is the equation of the line shown?.



Algebra Final-Review Answer Section

MULTIPLE CHOICE

- | | |
|------------|---------------|
| 1. ANS: D | DIF: Average |
| 2. ANS: D | DIF: Average |
| 3. ANS: C | DIF: Basic |
| 4. ANS: A | DIF: Advanced |
| 5. ANS: B | DIF: Advanced |
| 6. ANS: A | DIF: Basic |
| 7. ANS: D | DIF: Basic |
| 8. ANS: C | DIF: Average |
| 9. ANS: A | DIF: Average |
| 10. ANS: D | DIF: Average |
| 11. ANS: A | DIF: Average |
| 12. ANS: C | DIF: Basic |
| 13. ANS: C | DIF: Basic |
| 14. ANS: C | DIF: Average |
| 15. ANS: A | DIF: Average |
| 16. ANS: D | DIF: Basic |
| 17. ANS: A | DIF: Average |
| 18. ANS: B | DIF: Basic |
| 19. ANS: D | DIF: Basic |
| 20. ANS: B | DIF: Advanced |
| 21. ANS: C | DIF: Basic |
| 22. ANS: B | DIF: Advanced |
| 23. ANS: B | DIF: Average |
| 24. ANS: D | DIF: Basic |
| 25. ANS: A | DIF: Average |
| 26. ANS: D | DIF: Basic |
| 27. ANS: A | DIF: Basic |
| 28. ANS: A | DIF: Average |
| 29. ANS: D | DIF: Basic |
| 30. ANS: D | DIF: Basic |
| 31. ANS: A | DIF: Average |

SHORT ANSWER

32. ANS:
0

DIF: Basic

33. ANS:
 $-\frac{7}{6}$

DIF: Basic